



State of Utah

DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

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May 22, 2000

TO: Internal File

THRU: David Darby, Project Lead

FROM: Paul Baker, Reclamation Biologist

RE: Pines Tract Revision, Canyon Fuel Company LLC., SUFCO Mine, ACT/041/002-SR99D-3

SUMMARY:

On July 16, 1999, the Division received a proposal from Canyon Fuel Company to add the Pines Tract Lease. The entire lease is 7171.66 acres, but the Division previously approved adding 160 acres of this lease area with the stipulation that there only be full support mining. The proposal includes a breakout in Muddy Canyon with total new disturbance of 0.017 acres. Revisions to the original submittal were received October 18, 1999, March 9, 2000, and May 17, 2000.

The Division still needs to receive a clearance from the State Historic Preservation Officer (SHPO). The Division, Forest Service, SHPO, and the applicant have been working to finalize a Memorandum of Agreement that would include monitoring and mitigation requirements for some archaeological sites that could be adversely affected by subsidence. Not all of the sites included in the Memorandum of Agreement are in the Pines Tract; some are in the current permit area. According to Stan McDonald of the Forest Service, this document is complete and is currently being signed by the various parties. SHPO should be able to give its concurrence once the agreement is signed.

TECHNICAL MEMO

TECHNICAL ANALYSIS:

ADMINISTRATIVE INFORMATION

OWNERSHIP AND CONTROL

Regulatory Reference: R645-301-112

Analysis:

The application includes no changes to this section. All land within and contiguous to the proposed addition to the permit area is owned by the United States, so no updates to the land ownership section are needed.

Findings:

Information provided in the application is considered adequate to meet the requirements of this section of the regulations. The Division will need to check ownership and control information currently in the mining and reclamation plan with the applicant violator system.

VIOLATION INFORMATION

Regulatory Reference: R645-301-113

Analysis:

The applicant has proposed to update violation information. Information on violations issued prior to 1993 would be eliminated, and more recent violations would be added. The applicant has proposed no other changes to this section of the mining and reclamation plan.

Findings:

Information provided in the proposal is considered adequate to meet the requirements of this section of the regulations. Violation information will need to be checked in the applicant violator system.

RIGHT OF ENTRY

Regulatory Reference: R645-301-114

Analysis:

The application contains a copy of Coal Lease UTU-76195 which was issued by the Bureau of Land Management to Canyon Fuel Company on September 1, 1999. The application text also includes a new legal description and acreages for the lease. This satisfies the requirements of this section of the regulations.

Findings:

Information provided in the proposal is considered adequate to meet the requirements of this section of the regulations.

UNSUITABILITY CLAIMS

Regulatory Reference: R645-301-115

Analysis:

The application includes no changes in this section. The Division has no indication the proposed addition to the permit area is within an area designated as unsuitable for coal mining and reclamation operations or under study for such designation.

The application identifies no occupied dwellings within the proposed addition. The surface of the plateau contains unimproved Forest Service roads that could be affected by subsidence, and the Environmental Impact Statement (EIS) considers these effects. The Forest Service did not restrict mining to reduce potential effects on roads, so their decision to allow mining constitutes approval to undermine the roads.

Findings:

Information provided in the proposal is considered adequate to meet the requirements of this section of the regulations.

PERMIT TERM, INSURANCE, PROOF OF PUBLICATION, AND FACILITIES OR STRUCTURES USED IN COMMON

Regulatory Reference: R645-301-116, R645-301-117

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Analysis:

The proposed revision will not affect the permit term.

The insurance policy currently on file with the Division meets regulatory requirements.

On February 7, 2000, the Division approved an amendment where the Pines Tract public notice was included in the existing mining and reclamation plan.

There are no changes to the section dealing with facilities or structures used in common.

Findings:

Information provided in the proposal is considered adequate to meet the requirements of this section of the regulations.

ENVIRONMENTAL RESOURCE INFORMATION

HISTORIC AND ARCHAEOLOGICAL RESOURCE INFORMATION

Regulatory Reference: R645-301-411.140

Analysis:

The current mining and reclamation plan, as amended for the recent 150-acre incidental boundary change, contains a report on cultural resources in the Pines Tract. The Pines Tract contains ten previously recorded and twelve newly identified cultural resource sites. Of these, seven sites are considered eligible for nomination to the National Register of Historic Places. Also discovered were eight isolated artifacts.

The sites include a historic sawmill and associated buildings and several lithic scatters and rock shelters. The rock shelters are near canyon rims, and the sawmill is in the upper part of the East Fork of Box Canyon.

The current mining and reclamation plan indicates the permit area contains no cemeteries, public parks, or units of the National System of Trails or the Wild and Scenic Rivers System, and none are identified in the application. Therefore, it can be assumed none are in the proposed addition to the permit area.

Findings:

Information provided in the proposal is adequate to meet the requirements of this section of the regulations.

VEGETATION INFORMATION

Regulatory Reference: R645-301-321

Analysis:

Appendix 3-9 contains a discussion of plant communities in the lease area, including dominant species and approximate percentage of the area covered by each community. The proposed breakout is in an alderleaf mountain mahogany/Salina wild rye community.

Vegetation communities are mapped on Plate 3-1. This map shows riparian communities along both forks of Box Canyon Creek and next to Muddy Creek.

The Pines Tract portion of Plate 3-1 has vegetation mapping information directly from the Environmental Impact Statement. The vegetation community classification scheme is different in the Pines Tract compared to the rest of the permit area, and boundary lines do not match between the Pines Tract and Quitchupah areas. The map shows the sources for the two different sets of information.

The current mining and reclamation plan contains quantitative vegetation information for several areas within the permit area, not just the surface facilities area. The vegetation communities sampled include at least three that are similar to the mountain mahogany/Salina wild rye community in the breakout area, including ponderosa pine/manzanita/mountain brush, mountain brush, and pinyon/juniper/mountain mahogany.

For the breakout, the applicant only plans to disturb 0.017 acres, an area of about 720 square feet or the equivalent of a square with sides of about 27 feet. Considering the small size of the breakout and considering the current plan contains quantitative vegetation information for communities very similar to what exists at the proposed breakout, the Division does not feel additional quantitative vegetation data is needed for the breakout area.

By lease stipulation, the applicant is required to monitor the effects of underground mining on vegetation, and the current mining and reclamation plan contains a plan to do this with color infrared photography every five years. Color infrared photography can detect water stress, so it is appropriate for monitoring potential effects of mining on riparian vegetation.

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The Forest Service commented that the applicant should monitor some hanging garden communities in Box Canyon. The applicant is monitoring Link Trail columbines and other vegetation in the main fork of Box Canyon using photopoints, and the mine plan contains a commitment to do this monitoring.

Link Canyon contains some segments of riparian and/or wetland vegetation, particularly below the Link Canyon Mine portals. These areas are shown on Plate 3-1. These areas should be specifically included in the color infrared photographs.

Findings:

Information provided in the proposal is adequate to meet the requirements of this section of the regulations.

FISH AND WILDLIFE RESOURCE INFORMATION

Regulatory Reference: R645-301-322

Analysis:

Wildlife Information

Appendix 3-9 contains a report with a discussion of wildlife use of the area. According to this report, there are about 80 species of mammals, 130 species of birds, eight amphibians, and 17 reptiles that may occur in the Pines Tract area. The lower parts of Box Canyon contain some fish.

Plate 3-2 shows elk ranges, and Plate 3-3 shows deer ranges and raptor nests. Most of the proposed addition to the permit area contains critical elk winter range. Nearly all of the area is high priority deer winter range.

The proposed addition contains six golden eagle nests and one falcon scrape. According to Plate 3-3, four of the eagle nests were inactive and two were tended, but it is not clear how current this data is. The applicant commits in the mining and reclamation plan to monitor any area with suitable habitat where raptor nests could be adversely affected by mining for both known and potential new nests. This will be done annually on a helicopter flight near the end of May.

Muddy Creek and the lower portion of Box Canyon Creek support fish populations. These barely enter parts of the Pines Tract lease but would not be undermined.

Threatened and Endangered Species

As part of the 150-acre incidental boundary change, lists of threatened, endangered, and sensitive species have been recently updated. Appendix 3-9 is a report on the vegetation and wildlife of the Pines Tract area, and it discusses threatened, endangered, and sensitive species that might be in the area. All but one of the listed threatened and endangered plant species discussed in the report grow at elevations lower than the mine; they are basically desert species and are adapted to soils derived from geologic formations not found within the Pines Tract area. The only high elevation species is Heliotrope milkvetch (*Astragalus montii*) which is known only from Flagstaff limestone at elevations of 10,990 to 11,320 feet on the Wasatch Plateau. Flagstaff limestone does not outcrop in the current permit area or in the proposed addition, and the highest elevation in the mine area is about 9160 feet on Duncan Mountain, well below the reported lower elevation limit for this species.

Table 2 of the report in Appendix 3-9 lists seven sensitive plant species that were investigated for the EIS. Of these, only one, the Link Trail columbine (*Aquilegia flavescens* Var. *rubicunda*), has been documented to occur in the area. Two other species, the Arizona willow (*Salix arizonica*) and canyon sweetvetch (*Hedysarum occidentale* Var. *canone*) have potential habitat in the proposed addition to the permit area, but they have not been found.

Link Trail columbines have been found in both the main and east forks of Box Canyon, and although they have been found in areas with no obvious subsurface water source, they mostly grow in relatively wet areas, often in cracks in the sandstone. The most likely effects to Link Trail columbine plants would be from loss of water. Some of the populations in the main fork of Box Canyon are being monitored for possible effects caused by mining. The east fork has not been surveyed as extensively as the main fork, and it is not known if the applicant documented the location(s) of any population(s).

Longwall mining to the east of the main fork of Box Canyon is expected to occur in 2000, so the effects of this mining on groundwater and on the populations of Link Trail columbines in this canyon should be evident before any mining occurs east of the east fork of Box Canyon. The applicant has committed monitor columbines in the east fork if it is determined that mining negatively affects the populations monitored as part of the 150-acre incidental boundary change east of the main fork.

Table 3 in Appendix 3-9 includes ten listed threatened, endangered, and candidate wildlife species that were evaluated for occurrence in the Pines Tract area. These are the same species included in the EIS. Peregrine falcons were included in the analysis, but they are no longer listed as threatened or endangered. They are still protected, however.

Bald eagles could occasionally pass through or roost in the area, but the mine is unlikely to have any negative effects.

According to the EIS, the willow flycatcher has recently been found on the Wasatch

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Plateau north of the mine area, but it is not known if this was the southwestern willow flycatcher subspecies. The Forest Service reviewed habitats in the project area for the EIS and determined that "... while some habitat does exist in the area, this habitat is not suitable as willow flycatcher nesting habitat."

Except for peregrine falcons which have been documented to nest within about one-half mile of the Pines Tract, none of the other wildlife species in Table 3 is likely to occur in the area. Through water depletions, the mine could potentially adversely affect the four fish species listed, but the increase in the size of the permit area is not expected to increase water consumption.

Spotted bats, northern goshawks, and northern three-toed woodpeckers have been found in the project area, and the Pines Tract contains potential habitat for flammulated owls. All of these are Forest Service Region 4 Sensitive Species.

The Forest Service commented verbally that the sage grouse is a Forest Service Region 4 sensitive species that should be included in the list in Table 3-3; however, the applicant indicated in their cover letter for the March 9, 2000, submittal that the most current list of sensitive species does not include the sage grouse. Once it is officially listed, the plan will be modified accordingly.

Findings:

Information provided in the proposal is adequate to meet the requirements of this section of the regulations.

LAND USE RESOURCE INFORMATION

Regulatory Reference: R645-301-411

Analysis:

Plate 4-1 shows land uses in the area. The land is managed by the Forest Service for multiple uses, including, timber, grazing, wildlife, and mining. These are the same uses identified as occurring in the current permit area.

Findings:

Information provided in the proposal is considered adequate to meet the requirements of this section of the regulations.

OPERATION PLAN

PROTECTION OF PUBLIC PARKS AND HISTORIC PLACES

Regulatory Reference: R645-301-140

Analysis:

Three of the significant or potentially significant cultural resource sites are in the subsidence area shown on Plate 5-10A. These are 42SV 2425, 42SV 2433, and 42SV 2434. Site 42SV 2425 is a lithic scatter, and the other sites are rock shelters that could be adversely affected.

The application says the monitoring, treatment plans, and mitigation of the cultural resource sites will be in accordance with the memorandum of agreement (MOA) between the Forest Service, SHPO, the Division, and the applicant. This agreement has not yet been signed by all parties, but, according to Stan McDonald of the Forest Service, it has been sent out for signatures. As soon as this agreement is signed, SHPO should be able to give its concurrence to the proposal. The applicant has committed in the application to follow the terms of this agreement.

Findings:

Information provided in the proposal is considered adequate to meet the requirements of this section of the regulations. However, prior to approving the application, the Division needs to receive concurrence from the State Historic Preservation Officer.

FISH AND WILDLIFE PROTECTION PLAN

Regulatory Reference: R645-301-333

Analysis:

Protection and Enhancement Plan

The existing mining and reclamation plan contains commitments to protect wildlife from the adverse effects associated with mining. Underground mining is likely to have little if any effect on most species on the plateau, including deer, elk, and sage grouse.

Endangered and Threatened Species and Bald and Golden Eagles

The Environmental Impact Statement for the Pines Tract lists eighteen threatened and endangered species that could occur in the project area. The only species that might be affected

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are the southwestern willow flycatcher and the four threatened and endangered fish of the upper Colorado River basin. However, as discussed in the fish and wildlife resource information section of this analysis, there is no suitable habitat for the southwestern willow flycatcher in the area.

The Fish and Wildlife Service has determined that water losses from the upper Colorado River basin jeopardize the continued existence of the four threatened and endangered fish species found there. Mitigation is required when losses exceed 100 acre-feet per year. The mine is not expected to use additional water because of the increase in the size of the permit area, but there could potentially be some disruption of groundwater flows. The amount of loss is expected to be nonexistent or minor, and the environmental impact statement concludes "the effects of the proposed small water withdrawals are so limited in scope and intensity and are so far-removed from the remaining populations of [the listed fish] species that they are negligible." For these reasons, the Division does not expect mitigation to be required.

On April 26, 2000, the Division received a letter from the Fish and Wildlife Service concurring with the Division's findings on threatened and endangered species.

Four eagle nests and one falcon scrape shown on Plate 3-3 are in the subsidence area shown on Plate 5-10. The current mining and reclamation plan says in Section 3.3.3.3 that any raptor nest that might be disturbed by subsidence will be evaluated by Wildlife Resources and the Fish and Wildlife Service. An appropriate plan of action will be developed on a case by case basis, and the applicant will obtain any permits necessary for disturbing the nest if this becomes necessary. The Division of Oil, Gas and Mining will be notified in advance. This plan is acceptable.

A golden eagle nest and a falcon scrape are on the north side of Muddy Canyon apparently in full view of the proposed breakout. They are about 3/4 mile from the breakout, and this is outside the buffer zone normally used for golden eagles. The application says if the scrape is still active at the time of construction, the breakout will be built outside the nesting period. This commitment is acceptable.

The Fish and Wildlife Information section of this analysis discusses potential effects of mining on the Link Trail columbine and monitoring requirements.

Three-toed woodpeckers, goshawks, and flammulated owls use Ponderosa pines and other tree species for roosting and nesting in and near the area; however, it is unlikely trees would be affected by underground mining. The EIS concluded that individuals of these species could possibly be affected but that there would be no significant effects to the populations or to the species.

The mining and reclamation plan contains a survey for bats in the Link Canyon and Muddy Creek areas. The consultants that did this survey suggested that subsidence could affect roosting areas and that some individuals could be lost; however, they felt new cracks would

offset the ones destroyed and that there would be little net effect. They believe there could be some impact on local populations of spotted bats. The report says if subsidence occurred in spring and summer it might cause reproductive females to carry young to another less favorable roost site. In the winter, torpid bats might not have time to arouse and escape during subsidence.

Subsidence could occur in these areas as a general lowering of the topography or it could cause sudden failure of some rock features. Bats would likely either be unaffected or would not have time to fly away to escape subsidence.

From the information in the report, the Division draws the following conclusions about bats:

- There are bats, including spotted bats, present in the general area although spotted bats may not be present in the upper part of Box Canyon.
- There are no known hibernacula, maternal roosting sites, or other areas of heavy concentration in the area that would be subsided.
- Cracks in rocks being used by bats could fail and kill or trap any animals using them, but since there are no known concentration areas, it is unlikely this would seriously reduce the local population. Generally, rock crevices and defective trees are used by only a few bats rather than large populations.
- It is possible that new habitat could be created, but this is also unlikely.

For these reasons, there should be no need to mitigate possible effects on bats or to do further monitoring.

Findings:

Information provided in the proposal is adequate to meet the requirements of this section of the regulations. The Division finds the proposal will not adversely affect any threatened or endangered species, and the Fish and Wildlife Service has concurred with this conclusion.

RECLAMATION PLAN

POSTMINING LAND USE

Regulatory Reference: R645-301-112

Analysis:

The applicant has proposed no changes to the postmining land uses of wildlife habitat and grazing.

TECHNICAL MEMO

Findings:

Information provided in the proposal is adequate to meet the requirements of this section of the regulations.

REVEGETATION PLAN

Regulatory Reference: R645-301-341

Analysis:

The revegetation plan includes specific mention of the remote portals. These portals would be broadcast seeded with the standard seed mix. Reclaimed slopes in the area of the Muddy Creek Breakout will be protected from erosion by the application of an erosion mat stapled in place. This plan is acceptable.

Findings:

Information provided in the proposal is adequate to meet the requirements of this section of the regulations.

RECOMMENDATIONS:

The applicant has adequately addressed the requirements of the regulations covered in this review. Before approving the application, the Division needs to receive concurrence from the State Historic Preservation Officer.

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